

Notice of Allowability	Application No.	Applicant(s)	
	09/841,912	SMITH ET AL.	
	Examiner	Art Unit	
	Russell Frejd	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's IDS received on 24 November 2003.
2. ☒ The allowed claim(s) is/are 1-40.
3. ☒ The drawings filed on 24 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>11.30.01, 11.24.03</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Russell Frejd
RUSSELL FREJD
PRIMARY EXAMINER

In re Application of: Smith et al.

Allowance of Application # 09/841,912

1. The following communication is in response to applicant's filing on 24-April-2001.

Reasons for Allowance

2. The following is an Examiner's Statement of Reasons for the indication of allowable subject matter. The instant application is directed to a non-obvious improvement over the information described in the article authored by Smith et al., entitled *Power Distribution System Design Methodology and Capacitor Selection for Modern CMOS Technology*. The improvement comprises a system and method for determining the required decoupling capacitors for a power distribution system, wherein;

a power distribution model is created, the model including a plurality of cells interconnected at predetermined nodes;

one or more decoupling capacitors is selected for the power distribution system, wherein each of the decoupling capacitors is represented by a capacitor model comprising a mathematical model of an electrical circuit, the electrical circuit comprising: 1) first and second rail circuits comprised of a plurality of inductors in a series configuration, and 2) a plurality of rung circuits comprised of a resistor and a capacitor in a series configuration, and arranged to electrically connect the first and second rail circuits at distinct nodes;

the power distribution model system is updated based on the selecting;

operation of the power distribution system is simulated using the power distribution system model;

the transfer impedance values at each of the predetermined nodes is determined; and

In re Application of: Smith et al.

the transfer impedance values at each of the predetermined nodes is compared to a target impedance.

This patentable distinction is included in each of the independent claims, nos. 1 and 21. The art of record, either individually or in combination, fails to teach, suggest, or render obvious the useful, concrete and tangible determination of the required decoupling capacitors for a power distribution system having the corresponding structure which is disclosed in the specification and equivalents thereof at least at page 9, line 7 through page 25, line 27, and Figures 1-11. In view of the foregoing, the claims of the present application are found to be patentable over the prior art.

Response Guidelines

3. Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

4. **Any response to the Examiner in regard to this allowance should be**

directed to: Russell Frejd, telephone number (703) 305-4839, Monday-Friday from 0630 to 1500 ET, or the examiner's supervisor, Jean Homere, telephone number (703) 308-6647. Any inquiry of a general nature should be directed to the Tech Center 2100 receptionist, telephone number (703) 305-3900. The TC 2100 Customer Service telephone number is (703) 306-5631.

mailed to: Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to: (703) 872-9306

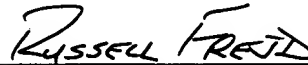
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Hand-delivered responses should be brought to 220 South 20th Street, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA, 22202.

Date: 17-September-2004



**RUSSELL FREJD
PRIMARY EXAMINER**